User Exits

This section covers the following topics:

- Logon-Related User Exits
- SECNOTE - User Exit for Security Notes
- Other User Exits

Logon-Related User Exits

Three logon-related user exits are available:

- LOGONEX1
- LOGONEX2
- LOGONEX3

LOGONEX1, LOGONEX2, and LOGONEX3 are Natural subprograms; their sources are available in the library SYSSEC, their object modules are stored in the library SYSLIB.

When you modify the sources, please take care to secure them appropriately so as to prevent them from being overwritten by the original user exits when Natural Security is installed again. To use one of these user exits, you copy its source code from the library SYSSEC into one of your own libraries, modify it to suit your requirements, catalog it, and then copy the cataloged object module into the library SYSLIB.

LOGONEX1

LOGONEX1 is *always* invoked by the Natural Security logon program.

Unless modified, LOGONEX1 invokes the Natural Security logon screen (map LOGONM1 or dialog box GLOGONM1; see Logon Screen / Logon Dialog Box).

By modifying LOGONEX1 it is possible to invoke your own logon screens.

LOGONEX2

LOGONEX2 is invoked by the Natural Security logon program under any of the following conditions:

- when "#" is entered as the library ID (or is passed from LOGONEX1 as library ID);
- when no library ID has been specified for the logon and neither a default library nor a private library exists which could have been invoked (see also Logon Without Library ID in the section Logging On).

When LOGONEX2 is invoked, the user ID and password have already been checked and found valid by the logon program. At this point, the Natural system variable *USER contains a valid value, which may be used.

Unless modified, LOGONEX2 consists of nothing but an END statement. On return to the logon program, a valid library ID must be passed to the logon program, otherwise the logon will be rejected. Moreover, it is possible to return one of possibly several IDs using which a user is linked to a library.

As the user ID/password check has already established the validity of the user-specific logon data when LOGONEX2 is invoked, LOGONEX2 may be used to implement additional user-specific procedures or to request user-specific data. For example, the subprogram SECNOTE (see below) may be invoked to read User Security Notes.

When the logon program invokes LOGONEX1 or LOGONEX2, it passes the parameters #USERDUMMY1 and #USERDUMMY2 to the subprograms. Both parameters are provided for your use; their format/length is A8. You may assign values to these parameters in LOGONEX1 and subsequently use these values in LOGONEX2, as they are passed without modification from one subprogram to the other.

LOGONEX3

LOGONEX3 is invoked by the Natural Security logon program under any of the following conditions:

- if there are mailboxes to be displayed;
- if at least one of the parameters #USERDUMMY1 or #USERDUMMY2, passed from LOGONEX1 or LOGONEX2 respectively, is not blank.

LOGONEX3 is invoked immediately after a successful logon and before control is passed from the logon program to the library invoked; when LOGONEX3 is invoked, logon processing is completed except for the display of the mailboxes.

If LOGONEX3 is left unmodified, it performs the subprogram calls necessary for the display of mailboxes.

You may modify LOGONEX3 for one of the following purposes:

- to suppress the display of mailboxes;
- to have non-library-specific processing to be carried out immediately after a successful logon but before any library-specific transactions are executed.

SECNOTE - User Exit for Security Notes

The user exit SECNOTE may be used to read the "Security Notes" of a security profile from outside the Natural Security library SYSSEC.

SECNOTE is a Natural subprogram whose object module is stored in the library SYSTEM. The source code of SECNOTE is not available.

SECNOTE can be invoked from a library by using a CALLNAT statement and will return "Security Notes" to the invoking library. "Security Notes" is that section of a security profile which usually consists of a window of eight lines invoked using "Additional Options". SECNOTE can be applied to User Security Notes, Group Security Notes, Library Security Notes and Special Link Security Notes.

SECNOTE must be invoked with the following three parameters:

Parameter	Explanation
#TYPE (A1)	This parameter is used to specify which Security Notes are to be read. Valid values for #TYPE are: **U** User Security Notes are to be read. The current content of the Natural system variable *USER determines which user's Security Notes will be read. **L** Library Security Notes are to be read. The current content of the Natural system variable *APPLIC-ID determines which library's Security Notes will be read. **G** Group Security Notes are to be read. The current content of the Natural system variable *GROUP determines which user's/group's Security Notes will be read. **S** Special Link Security Notes are to be read. The current contents of the Natural system variables *GROUP and *APPLIC-ID determine which special link's Security Notes will be read.
#NOTES(A60/8)	On return from SECNOTE, this parameter contains the Security Notes.
#RC (N4)	This parameter contains the return code from SECNOTE. Possible return codes are: **0** Security Notes have been read. **860** #TYPE contains invalid code. **806** Library does not exist (is not defined to Natural Security). **861** User has no special link to library. **873** User does not exist (is not defined to Natural Security).

The above-mentioned system variables are described in the Natural Reference documentation.

Other User Exits

The library SYSSEC contains a number of other user exits called NSC*XX*EX1 - where *XX* is the object type: US = user, LI = library, DD = DDM, FI = file, or OB = external object.

The object-type-specific NSC*XX*EX1 user exit is invoked immediately after a maintenance function for an object of the respective type has been performed.

The parameters of these user exits are not modifiable.

For details, please refer to the source code of user exits themselves.

